

An Exploratory Comparison of Disasters, Riots and Terrorist Acts

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One question that emerged following the 11 September attacks was how to categorise and classify the event within existing disaster and conflict-event research frameworks. A decade ago, Quarantelli (1993) compared findings on the similarities and differences between consensus- and conflict-type events by illustrating a conceptual distinction between the two. In this paper, this discussion is expanded to include terrorist attacks by offering comparisons from research findings following 11 September. We provide analyses of individual, organisational, and community-level behaviour in crisis situations and suggest how 11 September is both similar to, and differs from, consensus- and conflict-type events as they were previously considered. Applications for emergency management are also suggested.

Keywords: disasters, riots, terrorism, 11 September, consensus events, conflict events, emergency management.

Over the past century, disaster events have grown increasingly complex in their origins as well as their impacts on the environment, economies and human beings. On 11 September 2001, four passenger airplanes were hijacked from airports on the east coast in the United States. Two of the planes crashed into the World Trade Center towers in New York City, ultimately causing their collapse. The third plane struck the Pentagon in Washington, DC, and the fourth plane crashed in rural Pennsylvania. That morning, the world witnessed one of the most devastating, complex and catastrophic events ever experienced in the US. Over 2,000 people died as a result of the attacks, and the economic, political, psychological and social consequences have been wide-ranging and enduring.

From a social-science perspective, one question that emerged following the 11 September attacks was how to categorise and classify the event within existing disaster and conflict-event research frameworks. A decade ago, Quarantelli (1993) compared findings on the similarities and differences between consensus- and conflict-type events by illustrating a conceptual distinction between the two. Quarantelli defined consensus-type crises, such as natural and technological disasters, as relatively sudden in appearance and as generally having a fairly definable locale or area of impact. These events have been characterised as creating widespread public consensus and a focus on terminating the crisis as soon as possible and re-establishing normalcy.² Conversely, he defined conflict-type crises as occasions where one or more parties in the situation are consciously and deliberately trying to inflict damage, destruction or disruption on the populations involved. Quarantelli (1993: 69) includes 'collective terrorist attacks' as examples of conflict-type occasions. Within the original article, however, he

focuses exclusively on cases of quick-onset disasters as consensus-type events and riots and civil disturbances as conflict-type events, and therefore does not include specific discussion of how a large-scale terrorist attack might fit within his proposed framework. Quarantelli's concentration is understandable, given the time frame in which the original article was published: the US had not yet experienced a terrorist attack of significant magnitude on its own soil, while the nation had frequently dealt with natural disasters, technological hazards, riots and widespread civil disturbances. The 11 September attacks — and the subsequent framing of the events by the media, government officials, scholars and the public as a 'disaster' — necessitate an expanded discussion.

The argument presented here is that the 11 September terrorist attacks and the ensuing aftermath, while exhibiting many of the same characteristics as riots, do not fit exclusively into the conflict-type paradigm. Therefore, the purpose of this paper is to extend the original dialogue surrounding disasters and riots by including comparisons from the research findings following 11 September. The following analysis is organised around Quarantelli's (1993) original propositions regarding individual, organisational and community-level behaviour in crisis situations, expanding upon the propositions based on findings from post-11 September research. Making use of recent studies by social scientists and practitioners, the conclusion includes a discussion of how 11 September is similar to, and differs from, consensus- and conflict-type events previously considered. Practical applications from this analysis are also provided.

The methodological approach is deductive, as publications were identified that could be used to have a dialogue with the outcomes originally proposed by Quarantelli (1993). In this, it is recognised that the work summarises many of the major findings already produced by authors within the US disaster research field, as well as the inherent difficulties associated with dichotomous comparisons in attempting to cover the entire range of crisis events (Rosenthal et al., 1989). Yet the compilation of these findings in a single forum serves as a guide and an opportunity for readers to generate new ideas and theories on hazard definitions. Indeed, practitioners and scholars can learn much from theoretical and conceptual notions evolving from the empirical analyses of cases concerned with various catastrophic events, under differing political conditions, and within varying social contexts (*ibid.*; Quarantelli, 1998). In considering the research studies published following the 11 September attacks, the intent is to enhance the understanding and capacity to cope with future crisis events.

Proposition 1

When disasters do occur, individuals react actively and with a pro-social mode; there is more variability in riots with anti-social behaviour frequently surfacing (Quarantelli, 1993: 69). Following 11 September, both pro- and anti-social behaviour occurred.

Generally, in disaster situations, people respond in a pro-social mode. Examples of post-disaster pro-social behaviour include: initial search and rescue is most often carried out by survivors; victims undertake emergency tasks and help to organise shelters; and despite popular myth, there is relatively little deviant behaviour following a disaster (Fischer, 1998; Tierney et al., 2001; Webb, 2002). In sum, behaviour following a disaster is generally meaningful, goal-oriented, rational and

organised (Quarantelli, 1993: 69–70). Although it should be recognised that even in supposedly solidarity-engendering disasters, conflicts between different groups and agencies can emerge and shape the course of events (Rosenthal et al., 1989; Mileti, 1999), often as a result of vulnerability and differential access to resources (Hewitt, 1997; Bolin and Stanford, 1998).

In conflict situations, Quarantelli (1993) argues there is more variability in individual behaviour than that which exists in consensus disasters. Widespread anti-social behaviour often occurs during riot situations, as vandalism and looting are two of the deviant behaviours that characterise the act of rioting. On the more extreme end of the social scale, physical attack and murder may occur during riots, behaviours almost unheard of in a disaster event. The aforementioned violent behaviours, which may occur during riots, necessitate added security measures that are not often necessary in a consensus disaster (Quarantelli, 1993: 70).³ Thus, even though the potential for individual and organisational discord exists in sudden-onset consensus-type events, the potential for anti-social behaviour in conflict-type situations is much more likely.

Findings from 11 September 2001

The initial period following 11 September was primarily depicted by the media, and some disaster scholars, as a time of national mourning and public consensus which was characterised by the rush to normalisation (Turkel, 2002)⁴ and widespread pro-social behaviour (Alexander, 2002; Cohen et al., 2002). Much the same as other disaster events, in the wake of 11 September there was mass convergence and volunteer activity at the attack scenes (Kendra and Wachtendorf, 2001b; Webb, 2002); thousands of people seen lining up at blood-donation stations across the US; and significant charitable giving received in the form of food, clothing, supplies and money (Turkel, 2002; US General Accounting Office, 2002c). Furthermore, despite some apprehension, there was little looting or vandalism in New York City during the aftermath of the attacks (Weber et al., 2002). This pro-social behaviour — and general lack of deviant behaviour — in many ways resembled what researchers have documented following natural disasters. That is, the aftermath of 11 September was compared by some scholars to what social scientists have labelled as the creation of an ‘altruistic’ (Barton, 1969) or ‘therapeutic community’ (Fritz, 1961).

While there was an outpouring of pro-social behaviour immediately following 11 September, there was also a widespread need to focus the sense of blame (Bucher, 1957; Alexander, 2002; Peek, 2003), accompanied by anti-social behaviour. In the days, weeks and months after 11 September, people in the country from certain ethnic and religious groups became targets of intolerance and hostility. Thousands of Arabs, Muslims, Sikhs and people who appeared to be of Middle-eastern descent became the victims of discrimination, harassment, racial and religious profiling and verbal and physical assault (American-Arab Anti-Discrimination Committee, 2002; Council on American-Islamic Relations, 2002; Federal Bureau of Investigation, 2002; Haque, 2002; Human Rights Watch, 2002; US Department of Justice, 2002).

The assessment of the disaster agent as criminal, human conceived, violent in nature and intent, influenced the response that followed the events. This resulted in attacks on individuals, perceived as similar to the perpetrators, who became the victims of scapegoating behaviour, and subsequently were blamed for the events of 11 September (Peek, 2003). Extra measures were instituted to ensure the protection of individuals, mosques and Arab- and Muslim-owned businesses following the attacks.

Moreover, the US Equal Employment Opportunity Commission (EEOC) disseminated information in attempt to increase cultural awareness and stop workplace discrimination against minority ethnic and religious groups (2002).

In addition to the acts of backlash violence against those perceived as similar to the 11 September attackers, there was also a form of public backlash against those who attempted to dissent from political or popular opinion in the immediate aftermath of the event (Alexander, 2002; Dubnick, 2002; Gould, 2002; Lewis, 2002; Spicer, 2002). Indeed, initial attempts to debate publicly the complex issues surrounding why the 11 September attacks were perpetrated, concerns about decreased civil liberties and questions surrounding US foreign policy, for example, were often met with staunch criticism or even public outcry.

While the pro-social behaviour and ensuing community outreach following 11 September was often compared to the aftermath of a natural disaster situation, the necessity of additional efforts to protect certain minority group members more closely resembled the added measures during and following a riot. Moreover, the perceived silencing of public debate and the threat of the curtailment of civil liberties that marked the aftermath of 11 September resembled the variability in public response that typically follows a conflict-type event or wartime situation.

Proposition 2

While the experience of a disaster is a memorable one, and there are differential long-term effects, there do not appear to be too many lasting behavioural consequences; riots seem to leave more of a residue (Quarantelli, 1993: 70–71).⁵ The short- and long-term consequences of 11 September include negative effects on individual mental and physical health.

There is a substantial body of literature documenting immediate psychological effects for disaster survivors (Baum, 1987; Echterling, 1997; Kaspar, 2002), yet there is still much debate in the psychological community, the social sciences and among mental-health professionals regarding the prevalence of lasting psychological impacts. Indeed, within research regarding disaster and psycho-social recovery, there is disagreement over the extent to which disaster causes psychological impairment beyond cursory reactions such as sleeplessness, loss of appetite, anxiety and irritability (Tierney and Baisden, 1979; Tierney, 1999) in the population at large. For instance, some researchers argue that victims of disaster are at risk of post-traumatic stress disorder (PTSD) (Madakasira and O'Brien, 1987; Green, 1994) while others have found that community disasters rarely produce any new psychoses or severe mental illness (Quarantelli, 1985). There is general agreement, however, that those working as first responders of emergency organisations are sometimes at greater risk for experiencing post-traumatic stress, especially those dealing with horrific scenes such as dismemberment and disfigurement or handling body parts (Ursano and McCarroll, 1994; Nurmi, 1999).

In contrast with disasters, Quarantelli (1993: 71) claims that riots are more likely to create mental-health and psychological problems. He contends that this is understandable because individuals who are the object of direct physical attacks by others tend to suffer negative psychological effects.⁶

Findings from 11 September 2001

Findings are not yet available regarding the lasting behavioural and psychological consequences of 11 September. However, short-term studies of psychological impacts provide a glimpse into the mental-health consequences of the attacks. Several studies examined the impacts of the 11 September attacks on stress and coping in the immediate aftermath of the events. One study, conducted by the New York Academy of Medicine, found that 7.5 per cent⁷ of the study's 1,008 Manhattan resident participants reported symptoms of PTSD as well as depression several times higher than the rates reported by participants in a national mental-health study conducted in the early 1990s (Galea, 2002). Scientists at Research Triangle Institute in North Carolina conducted a study of residents living in the larger New York metropolitan area, in the Washington area and throughout the US as a whole. They reported that the prevalence of likely cases of PTSD in the second month after the attacks was significantly higher for those living in the New York metropolitan area (11.7 per cent) or 2.9 times more likely than those living in other areas of the US (Schlenger et al., 2002). RAND also conducted a nationwide survey to examine whether people around the country expressed symptoms of stress at rates anywhere near those of people who lived within close proximity of the attacks. They found that 90 per cent of the adults surveyed reported experiencing, at least to some degree, one or more stress symptoms, and 44 per cent of the adults reported a substantial level of at least one symptom of stress (Schuster et al., 2001).

One year after the attacks, the *New York Times*/CBS News conducted a survey of over 1,000 adult New Yorkers, which included questions about stress and coping. They found that 65 per cent of the respondents reported persistent fear and worry, 33 per cent reported daily intrusive memories and 25 per cent still felt nervous and edgy (Scott and Connelly, 2002). Marist and Children's Health Fund conducted a survey focused on children's psychological response, which found that 69 per cent of New York City parents who were surveyed said their children continued to have nightmares, anxiety, headaches, depression and clinginess as a result of the attacks (2002).

In addition to psychological effects produced by 11 September, physical effects have also been noted, especially the respiratory illness labelled 'World Trade Center cough'. Environmental health experts at the New York University School of Medicine analysed dust debris and air samples collected during the autumn of 2001. They found that the clouds 'contained microscopic shards of glass, much of it coated with contaminants such as soot, bacteria, mold and human cells. Additionally, pulverized concrete was highly alkaline or rife with metallic elements' (Garrett, 2002). The effects of breathing such airborne debris resulted in reports of people, particularly firefighters and other first responders, experiencing a severe and debilitating cough accompanied by shortness of breath (Prezant et al., 2002). Scientists at the Centers for Disease Control and Prevention found that incidents of respiratory medical leave in the New York City fire department since the World Trade Center collapse increased fivefold, compared with the 11 months prior (CDC, 2002). One door-to-door survey of lower Manhattan residents, conducted by the New York City Department of Health and Mental Hygiene, found that nearly two-thirds of people living in nearby neighbourhoods experienced nose or throat irritation. Four-fifths of these said their symptoms did not subside in the days and weeks following the collapse, hence continuing to cause physical problems (Guterman, 2002).

Considering these findings, it appears that the significant psychological and physical impacts of 11 September are more similar to the outcomes of riots than

disasters (as conceived by Quarantelli, 1993). Although, as was noted above, there is still much disagreement regarding the occurrence and prevalence of lasting psychological trauma and chronic stress following natural and technological disasters.

Proposition 3

Organisations have major problems trying to manage crises, but have more difficulties with riot than with disaster responses (Quarantelli, 1993: 72). Organisational response to 11 September was compounded by continued threats and security concerns.

Quarantelli (1993) identifies three crisis-management problems that are typical of both consensus and conflict-event responses: information flow, decision-making and inter-organisational coordination. However, in contrast with consensus events, organisations responding to a riot have more difficulties in coping or adjusting to the crisis due to the conflictive social context and the actions of individuals and groups who deliberately interfere with emergency management operations (Quarantelli, 1993). Research on emergent organisational behaviour in riots has shown a move away from traditional response patterns for groups such as the police who may withdraw from confrontation, or firefighters who sometimes let some fires burn and simmer rather than extinguishing them immediately.

Findings from 11 September 2001

Each of the three crisis-management problems identified by Quarantelli (1993) was common to 11 September as well. For example, information flow and inter-organisational coordination were hampered by the magnitude of the events over several sites, as well the longer term recovery efforts that required the skills and materials of private sector, government sector and non-governmental sector partnerships (Comfort, 2002; Weber et al., 2002). Decision-making was also badly affected by the destruction of both the physical facility and the materials of the city's Emergency Operations Center (EOC), previously located on the 23rd floor of 7 World Trade Center. The EOC housed numerous telecommunications and security systems, and was expected to serve as the core logistics centre for approximately 68 city agencies immediately following the attacks (Cohen et al., 2002).

The sheer number of organisations needed to respond and manage the World Trade Center site created a challenge to inter-organisational coordination. Security measures and control of local airspace, waterways and transport systems such as the Path train and the Metro subway systems were immediately enforced while thousands of people evacuated the lower downtown area. Law-enforcement personnel were put on the highest state of alert ('Condition Omega') while members of local, state and federal levels of government converged on the site (Cohen et al., 2002).

Organisations responding to the attacks had to manage the additional issues of ongoing threats and the ensuing security risks to multiple sites throughout the rescue and recovery period. Because the attacks were criminal in nature and those involved in its planning and implementation were difficult to identify, a heightened concern was created regarding site access and security (Simpson and Stehr, 2002). For example,

security regulations at the World Trade Center site changed sometimes twice daily. This affected private contractors engaged in various activities as they had difficulty complying with identification requirements and an increasingly formalised badge system (Kendra and Wachtendorf, 2001a; Weber et al., 2002).

Spontaneous volunteers displaying helping behaviours, but without any ties to legitimate disaster response agencies, such as the American Red Cross or the Salvation Army, were a distinct challenge to organisational crisis management (Kendra and Wachtendorf, 2001b; Sutton, 2003). Beyond the great concern for identification and checking the credentials of all personnel working at the various locations necessary for security, many spontaneous volunteers arrived at the disaster scene with a lack of familiarity with emergency operations, lack of local knowledge and a lack of shared vision of emergency needs, goals and available resources. This was further attenuated by health and safety concerns of uncontrolled donations such as home-made food. These concerns were twofold: first that food left lying around risked becoming unsanitary or contaminated at worksites, posing a threat to anyone consuming it; second, was fear that donated food might be laced with poison or biological agents, thus potentially causing lethal harm to recovery workers and government employees. These concerns had to be balanced by emergency managers who recognised that outright rebuffs of volunteers would constitute bad public relations (Kendra and Wachtendorf, 2001b).

Those coordinating organisational management following 11 September faced similar difficulties as those faced in both disasters and riots. However, the problems following the terrorist attacks were compounded by the magnitude of the destruction, continued threats and security concerns lending unique dimensions to that disaster.

Proposition 4

There is selective organisational change that can come from undergoing a community crisis, but it is far more likely after riots than after disasters (Quarantelli, 1993: 72). There was significant organisational change prompted by 11 September, particularly at the national level.

Quarantelli (1993) explains that typically, in the recovery period following disasters, few changes take place in organisational or group structure. Those organisations that do undergo structural alterations do so not as a result of the disaster itself, but instead experience acceleration of the organisational changes that were already under way. In contrast with disasters, riots often create impetus for organisational alterations in the recovery period in terms of structural changes, prevention measures and preparations for future responses to civil disturbances.

Findings from 11 September 2001

The aftermath of 11 September was characterised by the adaptation of organisational structures and functions for prevention, preparedness and response. Many have noted that this change is not surprising because crisis events are usually the impetus for public policy innovation and change (Newmann, 2002; Tierney, 2002; Waugh and Sylves, 2002; Rubin et al., 2003). Perhaps the most dramatic changes were the

structural alterations of federal offices, simultaneous with the dissemination of major reports, creation of statutes and signing of presidential Executive Orders. Traditionally, major disaster events are followed by after-action reports and studies to determine necessary improvements for a better-coordinated response. Immediately following 11 September, no hearings or studies were ordered to determine what went wrong and what remedies were needed, and the speed and bipartisan nature of the legislative process were unprecedented (Rubin and Tanali, 2001; Cohen et al., 2002). Instead, the major papers such as the General Accounting Office Reports on Counter Terrorism and the Gilmore Report⁸ were prepared for dissemination based upon previous research and findings,⁹ leading to the quick initiation of major legislation and orders from the Capitol.

New legislation and Executive Orders were rapidly enacted in the days and weeks following 11 September. The Uniting and Strengthening America by Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act of 2001 (USA PATRIOT Act) implemented new means to address domestic terrorism. The Response and Recovery Act quickly followed, and appropriated \$40 billion to finance the disaster costs. Additional acts included the Aviation Transport Security Act, which transferred civil aviation security from the Federal Aviation Administration to the hands of the newly formed Transportation Security Administration (within the Department of Transportation), and the Defense Authorization Act, which authorised funding to continue the war against global terrorism. (See Haque, 2002 for information regarding additional anti-terrorism measures adopted since 11 September, as well as a comprehensive discussion of the consequences of these initiatives for individuals, societies and nations around the world.)

Within days of the 11 September attacks, President Bush announced the formation of the Homeland Security Office (EO 13228) to coordinate federal, state and local counter-terrorism efforts followed by orders for Critical Infrastructure Protection (EO 13231) to ensure defence of information systems such as emergency preparedness communication. Passed by the Senate on 19 November 2002, by a 90–9 vote and signed by the president the last week of November, the Homeland Security Bill (HR 5005) combined 22 federal agencies into one department designed to safeguard homeland security. The Department of Homeland Security represents the largest governmental reorganisation since the creation of the Department of Defense in 1947.

The organisational change that took place following 11 September is more similar to riots than disasters. However, the speed, breadth and depth of such change extends beyond previous disaster or riot response and recovery, making it appear outside of the normal realm of all previous consensus and conflict events.

Proposition 5

Community preparations for, and emergency time responses to, disasters and to riots are different in some important ways (Quarantelli, 1993: 73). Preparation for and response to terrorism necessitates additional measures, given the obscure and ongoing nature of the threat.

Communities often carry out disaster-planning exercises, simulations and educational efforts. These pre-crisis preparedness activities result in most communities being more prepared for disasters than riots. Moreover, because there are typically

more groups and agencies involved in disaster mitigation, more pre-disaster coordination is necessary between these types of groups.

Regarding the immediate post-disaster time period, there is usually greater organisational response, as well as massive convergence of people, communications and material goods at the disaster scene. There is a focus on re-establishing normalcy and order immediately following both disasters and riots. However, in riots, there is far less convergence — of people, communications, and donated goods — at the scene of the conflict. The primary and most immediate focus is on ending the rioting, rather than on re-establishing lifeline networks, for example. Moreover, emergence is less likely and less extensive in riots. Coordination, rather than control, is important in both disasters and riots — although the focus is more likely to be on coordination in a disaster situation, versus the command and control structure that typifies responses to rioting (Quarantelli, 1993).

Findings from 11 September 2001

Following the attacks, there have been unprecedented attempts at the local, state and national levels to become more prepared for terrorist attacks. Thus, in many ways, the counter-terrorism measures, training activities and exercises that have been conducted post-11 September more closely resemble the preparation for more ‘routine’ disaster events.¹⁰ However, given the very nature of terrorism — it is covert, criminal and the intent is to shock and terrify an entire population (Jeurgensmeyer, 2001) — it is almost impossible ever to prepare fully for a terrorist attack (Comfort, 2002). It is a fact that hurricanes are most likely to strike the gulf coast regions and that tornadoes are most likely to occur in the midwestern and southern regions of the US. Thus, while one cannot predict exactly when and where a natural disaster may occur, one is better able to anticipate such events because of scientific knowledge. Regarding terrorism, agencies may try to prepare for possible hits at ‘terror targets’ — such as transport lifelines or symbols of US economic or military strength — based on counter-terrorism intelligence activities. However, despite the most vigilant efforts of a community or a security task force, it is extremely difficult, if not impossible, to predict and hence to prepare fully for an intentional attack meant to find the population unaware (US General Accounting Office, 2001).

Emergency personnel from numerous city, state and federal agencies responded to the 11 September attacks. The organisational response in the aftermath of 11 September resembled post-disaster organisational response in many respects, although the magnitude and nature of the attacks likely increased the attraction of outside groups (Waugh and Sylves, 2002). In addition to the federal agencies that typically respond to disasters, such as the Federal Emergency Management Agency (FEMA), multiple faith-based and community-based organisations also responded to the 11 September attacks (Sutton, 2003). Local police officers and firefighting teams as well as search-and-rescue groups converged at the scenes of the attacks. There was also a massive convergence of people, particularly at the site of the World Trade Center, who either participated in the immediate recovery operations or hoped to volunteer during the ensuing hours and days (Lowe and Fothergill, 2003).

Following 11 September, there was a focus on re-establishing order. At the same time, due to continued uncertainty about the possibility of further attacks there were also major national-security concerns. Also, given the source of the events, the ‘disaster sites’ on 11 September were treated as crime scenes. Access was strictly

limited to specific individuals and organisations that were directly involved in some aspect of the recovery efforts.

Proposition 6

There are some selective but different long-run outcomes and changes after disasters and riots in impacted communities, although the surfacing of negative aspects occurs in both (Quarantelli, 1993: 74). While it is too soon to evaluate the long-run outcomes of 11 September, major organisational, economic, political and social issues have arisen. The long-term change resulting from the events of 11 September will likely be as significant as the more immediate outcomes already witnessed.

In evaluating the long-term consequences of disasters, large-scale community change is not common. This relative lack of long-term change in the disaster impact area is somewhat related to the human interest to resurrect pre-disaster patterns of culture and human interaction (Arnold, 1993; Mileti and Passerini, 1996). However, it should be noted that disasters may accelerate some pre-disaster community trends in local governmental arrangements and power structures (see, for instance, Newmann, 2002; Rubin et al., 2003).

More relatively permanent community changes, such as increased expenditure on social-welfare programmes and political coalition building and re-alignment are associated with riots. Although some concessions may be gained in a riot's aftermath, there may also be negative backlash in terms of public opinion that results in unmet goals. The surfacing of negative opinions and feelings in the long-term aftermath of a disaster are typical as well, as new conflicts may emerge over recovery and reconstruction efforts (Quarantelli, 1993; Mileti, 1999).

Findings from 11 September 2001

Although not enough time has passed since 11 September for any assessment to be made about the major long-term consequences, some patterns of conflict have emerged that resemble the aftermath of both disasters and riots. For example, there has been a great deal of disagreement over what, if anything, should be re-built on the site of the former World Trade Center towers. Also, while significant bi-partisan cooperation and political coalition building occurred in the immediate aftermath of 11 September, partisanship in both houses of Congress has once again re-emerged.

On a broader scale, the organisational, economic, social and political impacts of 11 September have been significant, and the after-shocks are likely to be felt for many years. The terrorist attacks on the World Trade Center caused enormous losses in New York City. A study by the US General Accounting Office (2002b) estimated that the attacks cost \$83 billion (in 2001 dollars) in total losses including both direct and indirect costs. Additional estimates indicate that approximately \$67 billion of the losses will be or have been covered by private insurance, charitable contributions (US General Accounting Office, 2002c) and emergency federal relief funds. Additionally, economists suggest that in New York City alone, approximately 100,000 people may have lost their jobs as a result of the attacks (US General Accounting Office, 2002c).

Beyond New York City, the terrorist attacks severely disrupted US financial markets as a result of loss of life, damage to buildings, loss of telecommunications and power and restricted access to the affected area (US General Accounting Office, 2003). Moreover, tens of billions of federal dollars have been allocated to homeland security activities at the local and state levels, as well as for the 'war on terror' (Cohen et al., 2002; US General Accounting Office, 2002a; Waugh and Sylves, 2002; Wise and Nader, 2002). This spending will undoubtedly have significant consequences for other US domestic and international programmes (Haque, 2002).

Most residents of the US have been affected in some way by changes in government regulations following 11 September, through increased security checks at large-venue events or airports, for example. Future debate will likely continue to revolve around balancing individual civil liberties with the need for public security (Haque, 2002; Waugh and Sylves, 2002) and bridling fear without surrendering essential rights. Maintaining democracy and constitutional freedoms will continue to challenge the entire US population as local, state and federal governments adapt their goals and means to mitigate and prepare for emergent human-induced hazards.

Conclusions

Eleven September and the ensuing aftermath has created what can be defined as a 'culture of disaster' in the US. It is rare to turn on the radio or television, or to open the newspaper, without hearing or reading something referring to life 'after September 11'. Given the uniqueness of the event, and its pervasiveness at all societal levels, it can be argued that it is not only important at a theoretical level to understand the type and magnitude of the terrorist event, but there are also significant applied lessons.

While there is much research left to be conducted, this initial body of knowledge on the complexity of terrorist events leads to several applications for emergency management. First, there is a need to consider the types of effects on different segments of the population impacted by terrorist events. Crisis events may have similar physical characteristics, but very different social consequences (Nigg and Mileti, 2001). In particular, there is a need to develop greater awareness of vulnerable groups that may be targeted for differential treatment on the basis of racial, ethnic and religious association, ensuring them safety in conflictual environments and equal access to recovery resources. While pro-social behaviour may commonly occur for directly impacted victims in events like 11 September, there is great need for awareness of groups that may become targets of retaliation.

Second, terrorist events appear to produce differential mental and physical outcomes compared to general consensus and conflict events.¹¹ In one review of traumatic stress literature, mass violence was found to be 'by far the most disturbing type of disaster' for mental-health outcomes (Norris et al., 2001). This awareness should lead to planning and preparedness measures for long-term recovery efforts, taking into account widespread psychological impact for all affected populations (including age, gender, race, religion and so forth).

Third, when disasters occur as a result of acts of violence with criminal intent, organisational functioning will be significantly affected as the necessity for security measures increase and the possibility for ongoing threats arise. Traditional emergency management has developed into a bottom-up process with increased professionalisation of state and local emergency managers. This has encouraged movement away from the

command-and-control approach that was common two or three decades ago (Waugh and Sylves, 2002). In order to coordinate multi-agency responses effectively, local, state and federal-level agencies within various branches of emergency-management, law-enforcement and national-security inter-organisational ties must be strengthened, greater levels of communication developed and investments made in ‘cultural interoperability’ (Waugh, 2003). Furthermore, it becomes increasingly important to plan for the coordination of emergent resources (such as volunteers, goods and services), rather than rely upon centralised models of command and control (Drabek and McEntire, 2002).

In the past, comparisons of consensus- and conflict-type events have resulted in claims that they should be conceptualised as different social categories due to the unique individual, organisational and community-level responses that result from the different types of occasions (Quarantelli, 1993). The argument here, however, is that examination of terrorist attacks as ‘conflict-type events’ — in the sense that they were intentional, violent and criminal — as well as ‘consensus-type events’ — in some social and behavioural outcomes of the event’s impacts — joins knowledge of the two areas, and provides a more-thorough framework for understanding their complexity. Indeed, researchers in the United Kingdom have acknowledged this complexity and developed a more dynamic matrix to understand the differences between human responses to crisis events. Rosenthal et al. (1989) explain that the simple dichotomies used to understand crisis events are too limiting. They propose that researchers ‘abandon the terminological confusion’ (ibid.: 436) of competing definitions of disasters and the limited dichotomies, such as natural versus human made or conflict versus consensus. Instead, they suggest that focusing on crisis as a concept that encompasses all critical episodes of threat, urgency and uncertainty for decision-makers, can be an alternative typology based on distinctions between the threat itself and the solution to the threat. Threats can range from impacts upon structures and institutions to norms and values, with local or broad geographical locations, originating within or from outside of the system affected. The second dimension, the solution to the threat, recognises that different groups hold different perceptions regarding the gravity of the event and the response strategies to employ. In reconsidering the ways that disaster events are framed — as consensus, conflict or the all-encompassing crisis event — researchers can pose empirically supported suggestions to improve policy and practice within systems of mitigation, preparedness, response and recovery.

In summary, 11 September represents elements of both consensus- and conflict-type events. The aftermath of 11 September, however, extends beyond the current consensus/conflict dichotomy in the following ways: there were continued threats and security concerns throughout the response and recovery period; organisational changes at the federal level were unprecedented; the re-establishment of order was undertaken through a mix of coordination as well as command and control; and there have been ongoing conflicts at the international level, including the military interventions in Afghanistan and Iraq. It is of vital importance that both scholars and practitioners apply lessons learned from previously studied consensus- and conflict-type events, as well as continuing to consider new challenges posed by terrorist acts.

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Notes

1. The authors are listed alphabetically to denote equal contributions.
2. A good deal of research on the differential community impacts of technological disasters compared with natural disasters has revealed that many technological disasters are not sudden in appearance with a definable area of impact, nor do they produce a 'consensus' type of a reaction within the population at risk. See for example Couch and Kroll-Smith (1985; 1991); Cuthbertson and Nigg (1987); Kroll-Smith and Couch (1990); and Erikson (1994). Quarantelli (1993) also recognised the distinctions between natural and technological disasters, and hence only considered sudden-onset crises rather than slow-onset risks in his discussion.
3. One anonymous reviewer reminded us that even in some consensus disasters an increase in security measures might be seen. For example, deadly wildfires, resulting from arson, may call for increased involvement of law enforcement due to criminal intent. Nonetheless, criminal law prevention and enforcement responsibilities and the public expectations surrounding them are magnitudes greater in terrorist incidents (Wise and Nader, 2002).
4. The emphasis on the quick return to life as normal was also accompanied by a general sense, particularly as portrayed by the US government and the media, that society was changed forever. Indeed, there was much discourse surrounding the significant social impacts of the unprecedented acts of terrorism, and the indelible mark it left on people around the world (Glendening, 2002).
5. The use of the concept 'behavioral consequences' within Quarantelli's original proposition is equated with psychological impacts and includes somatic reactions to stress.
6. There may be some question of whether riots and direct physical attacks belong within the same definition. Riots as collective behaviour differ from assault perpetrated by and upon individuals.
7. The researchers found the number of New Yorkers suffering from PTSD had dropped to 1.7 per cent nine months after the attacks (Galea et al., forthcoming).
8. These are reports drafted by the Gilmore Commission, an advisory panel established in 1998 under the National Defense Authorization Act. The panel was developed to assess domestic response capabilities for terrorism involving weapons of mass destruction and produces annual reports.
9. Reports developed years before the 2001 attacks point to a movement within the federal government to provide broader levels of understanding about threats toward the US and prescribe measures to be taken in order to safeguard national security. See for example the Hart/Rudman Commission Reports drafted in 1999, 2000 and 2001. The Department of Homeland Security was developed based on the groundwork of the Hart/Rudman Commission III Report. Rubin (2003) reminds us that the 11 September attacks 'cannot be considered in a vacuum'.
10. Many professionals in the emergency management field have expressed concern about increased funding for terror response that reduces local, state and federal budgets for natural hazard preparedness and mitigation. See for instance Waugh and Sylves (2002).
11. Although it could also be argued that the long-term impacts may be more similar to all types of poorly defined disasters with residual impacts of unknown duration. Thanks to the anonymous reviewer who suggested this.

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